

December 11, 2009

David M. Smith
Manager Environmental Remediation
BNSF
825 Great Northern Blvd
Suite 105
Great Falls, MT 59601

Gerald McCaskill
Manager Industrial Hygiene
BNSF
2500 Lou Menk Drive
AOB GL
Fort Worth, TX 76131

RE: 2009 Undercutter Spoils Sampling Summary

BNSF Kootenai River Subdivision

Libby, Montana Area

Messer's Smith and McCaskill;

EMR has the following document to summarize the field conditions, sampling methods and results of sampling of undercutter spoils that took place on August 19, 2009.

#### **Project Background**

The BNSF Railway Company (BNSF) maintenance forces, as part of normal track maintenance, utilized an undercutter along select portions of the BNSF mainline. The purpose of undercutting is to remove fine sediments and debris from the ballast to promote Undercutting was completed during June, 2009, at several locations near Kootenai Falls (Figure 1). Undercutting involves removal of ballast and debris from the ballast structure, sorting ballast from debris (spoils), placement of ballast back beneath the track structure and discharge of the removed spoils. Typically the spoils (small ballast, fine sediments) are discharged via conveyor to the side of the right-of-way (ROW) (Photos 2 through 6).

#### **Field Observations**

EMR personnel were on-site on August 19, 2009 to locate, assess and sample the undercutter spoils piles. BNSF personnel provided access and transportation to the spoils pile locations. A total of 4 spoils piles were observed between BNSF Kootenai River Subdivision Mileposts (MP) 1329.8 and MP 1333.02. The piles were located at the following approximate MP locations and approximate dimensions (Figures 2 and 3):

- 1. MP 1329.8 (30 feet x 20 feet x 5 feet high) (Photo 1)
- 2. MP 1331- MP 1331.01 (300 feet x 5 feet x 5 feet high) (Photo 2)
- 3. MP 1331.52- MP 1331.8 (1,500 feet x 4 feet x 4 feet high) (Photo 3 and 4)
- 4. MP 1332.89- MP 1333.02 (700 feet x 3 feet x 3 feet high) (Photo 5 and 6)

In general, the spoils piles were composed of variable size ballast cobbles and soil (Photos 1 through 6). However, very fine mica flakes were observed at two sample locations (MP 1331.8 and 1332.89) (Figure 3).



## **Sampling Methods and Analysis**

A total of six spoils samples (RR-00321 through RR-00326) were collected from the four spoils piles. One sample was collected from the piles at MP 1329.8 (Figure 2) and MP1331.02, while two samples were collected from each of the larger piles ranging from MP 1331.52 to MP 1331.8 and MP 1332.89 to MP 1333.02 (Figure 3).

Each sample was collected as a composite of six spoils aliquots. Each aliquot was collected from approximately 6 inches below the pile surface and added to a 1-gallon resealable plastic bag. After all aliquots were collected the composite was homogenized, labeled and double bagged. Sample information was added to a field sample data sheet (FSDS) (Attachment 4). Following collection, the spoils samples were submitted to Camp, Dresser and McKey (CDM) for preparation and analysis. In addition, CDM prepared QA/QC samples for both fine fraction (RR-00219 through RR-00221) and coarse fraction (RR-00221). The prepared samples were shipped to EMSL Laboratories, Inc. (EMSL) facility in Libby, Montana for analysis.

#### Results

All six soil samples contained both fine and coarse fractions that were analyzed using Polarized Light Microscopy - Visual Area Estimation (PLM-VE) and PLM-Gravimetric methods, respectively. No asbestos was detected in any of the field or QA/QC samples (Table 1). Complete laboratory reports are found in Attachment 5.

If you have any questions please me at (218) 625-2332. Thank you for the opportunity work with you on this project.

Sincerely, EMR, Inc.,

Scott Carney, CHMM, PG Duluth Division Manager

Att.: Figures

Tables Photo Log

Field Sampling Data Sheets

**Laboratory Reports** 

Attachment 1
Figures







Figure 2 Map Showing Spoils Samples & Undercutter Spoils Piles MP 1329

EPA Operable Unit 6 BNSF Kootenai River Sub

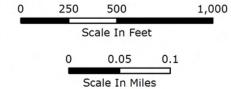
BNSF Personnel OSHA Exposure Sampling Report

## Legend

Spoils Sample Locations

Undercutter Spoils Pile Locations

--- BNSF Railway



Project Number: 5539-140
Date: December 3, 2009
Drafted By: KLA
Reviewed By: SJC
Reference: NAIP 2006 Lincoln Aerial



11 E. Superior St. Suite #260 Duluth, MN 55802 Phone: 218.625.2332 Fax:218.625.2337





Figure 3 Map Showing Spoils Samples & Undercutter Spoils Piles MP 1333 - 1331

EPA Operable Unit 6 BNSF Kootenai River Sub

BNSF Personnel OSHA Exposure Sampling Report

## Legend

Spoils Sample LocationsUndercutter Spoils Pile Locations

0 500 1,000 2,000 Scale In Feet

Scale In Miles

Project Number: 5539-140
Date: December 3, 2009
Drafted By: KLA
Reviewed By: SJC
Reference: NAIP 2006 Lincoln Aerial



11 E. Superior St. Suite #260 Duluth, MN 55802 Phone: 218.625.2332 Fax:218.625.2337

Attachment 2

Tables

# Table 1. Summary of Soil Sampling Results BNSF Undercutter Spoils Sampling BNSF Kootenai River Subdivision August 19, 2009 EMR Project #5539-140

Sample ID	Sample Date	Analysis Date	Laboratory	Analytical Method	Amphibole Particle Mass (mg)	Other Amphibole Particle Mass (mg)	Chrysotile Particle Mass (mg)	Milepost
RR-00321	8/19/2009	9/1/2009	EMR	PLM-VE	ND	ND	ND	1329.8
RR-00322	8/19/2009	9/1/2009	EMR	PLM-VE	ND	ND	ND	1331.52
RR-00323	8/19/2009	9/1/2009	EMSL	PLM-VE	ND	ND	ND	1331.01
RR-00324	8/19/2009	9/1/2009	EMSL	PLM-VE	ND	ND	ND	1331.8
RR-00325	8/19/2009	9/1/2009	EMSL	PLM-VE	ND	ND	ND	1332.89
RR-00326	8/19/2009	9/1/2009	EMSL	PLM-VE	ND	ND	ND	1333.02
RR-00219	8/26/2009	9/1/2009	EMSL	PLM-VE	ND	ND	ND	NA
RR-00220	8/26/2009	9/1/2009	EMSL	PLM-VE	ND	ND	ND	NA
RR-00221	8/26/2009	9/1/2009	EMSL	PLM-VE	ND	ND	ND	NA
RR-00321	8/19/2009	8/31/2009	EMSL	PLM-GRAV	ND	ND	ND	1329.8
RR-00322	8/19/2009	8/31/2009	EMSL	PLM-GRAV	ND	ND	ND	1331.52
RR-00323	8/19/2009	8/31/2009	EMSL	PLM-GRAV	ND	ND	ND	1331.01
RR-00324	8/19/2009	8/31/2009	EMSL	PLM-GRAV	ND	ND	ND	1331.8
RR-00325	8/19/2009	8/31/2009	EMSL	PLM-GRAV	ND	ND	ND	1332.89
RR-00326	8/19/2009	8/31/2009	EMSL	PLM-GRAV	ND	ND	ND	1333.02
RR-00221	8/26/2009	8/31/2009	EMSL	PLM-GRAV	ND	ND	ND	NA

Preparation Notes: D = Direct Preparation, I = Indirect, IA = Indirect Ashed

ND - Not Detected NA - Not Applicable

Note: RR-002XX samples are QA/QC samples prepared by CDM.

Attachment 3
Photo Log



Site Name:BNSF Kootenai River SubdivisionSite Location: Libby, MontanaDate:August 16, 2009Project No.: 5539-140



Photo No.1 Overview of the spoils pile at MP 1329.8. Sample RR-00321 was collected at this location. View to the east.



Photo No. 2 Overview of western half of the spoils pile at 1331.01. Sample RR-00323 was collected here. The Kootenai Falls pedestrian overpass is visible in the upper right corner of the photo. View to the west

 Site Name:
 BNSF Kootenai River Subdivision
 Site Location:
 Libby, Montana

**Date**: August 16, 2009 **Project No.**: 5539-140



Photo No.3 Overview of the eastern end of the spoils pile at MP 1331.52. Sample RR-00322 was collected at this location. View to the west.



Photo No. 4 Overview of the spoils pile between MP 1331.52 and MP 1331.8. View to the west

Site Name:BNSF Kootenai River SubdivisionSite Location: Libby, Montana

**Date:** August 16, 2009 **Project No.:** 5539-140



Photo No. 5 Overview of the east end of the spoils pile at MP 1332.89. Sample RR-00321 was collected at this location. View to the west.



Photo No. 6 Overview of the west end of the spoils pile at MP 1333.02. Sample RR-00326 was collected here. View to the west.

Attachment 4

Field Sampling Data Sheets

Charge No.: 2616. 015. 202.5A0V.6 \$114 09 (write in or place label here)

Sheet No.: <u>S- 007404</u>

# LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

.ddress: <u>♂√5 <i>F</i></u>	= Kow	Sampling Da	10: 8/19/09
			ok No
		Page No:i	2 20
ampling Team: CD	M (Other) EMR Names:	Mike McKay	
		,	
Data Item	Sample 1	Sample 2	Sample 3
index iD	2		
	RR- 00321	RR- 00322	RR- 00323
Location ID	AD-005568-	//	RR- 00323
Sample Group	PROPERTY -		<del></del>
Location Description	Back yard	Back yard	Back yard
(circle)	Front yard Side yard	Front yard Side yard	Front yard Side yard
•			Driveway
	Other MF 1329.8	Other MP 1331.52	Other MP 1331.01
Category (circle)	(FS)	<b>6</b>	(FS)
ategory (circle)	FD of	FD of	FD of
	EB	EB	EB
	LB	LB	LB
Matrix Type	Surface Soil	Surface Soil	(Surface Soil)
Surface soil unless other rise noted)	Other	Other	Other
ype (circle)	Grab # subsamples = 0	Grab#subsemples = 0	Grab # subsamples = 0
The femoles	Comp. # subsamples	Comp. # subsamples	Comp. # subsamples
Sample Time	08:54	04:32	10:14
op Depth (inches elow ground surface)	o ´	6 <sup>"</sup>	O"
Sottom Depth (inches selow ground surface)	3″	2"	3"
ield Comments		<b>3</b> 32	
Note if vermiculite was not observed in sample. For 30-point composites, note total # of visual			
wol to atnion points of low			
.), intermediate (M), or gh (H) levels of	no vermiculite observed	no vermiculite observed	no vermiculite observed
ermiculite observed)	L: M: H	L: M: H:	<u>‡</u> : М: H:
PS File (till in or circle)	Filename: NA	Filename NA	Filename: NA
090526			
or Field Yearn Completion	Completed by: Mr	For Data Entry Entered b	у
itials)	QC by: @r/	QC by: _	
reFSDS validation	Validated	Validated	Validated
<u> </u>	10:15186253337	ŻTZ9SSZ90 <del>t N</del> NI JU	50-500a 08:10 From:RODE∰

Charge No.: 2616. 015. 202. 5Ao u 6 8/19/09
(write in or place label here)

Sheet No.: <u>S- 007405</u>

# LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Address: BNS	FROW	Sampling D	ate: 8/19/09
	•	Field Logbo	ook No.
			2 00 2
Sampling Team: CD	Officer) EMR Names:	mike mekan	
		,	
Data Item	Sample 1	Sample 2	Sample 3
index ID	RR- 00324	RR- 00325 21918	RR- 00326 Stales
Location ID	AD-005568		78/19/07
Sample Group	Property -		$\longrightarrow$
Location Description (circle)	Back yard Front yard Side yard Driveway Other MP 1331-8	Back yard Front yard Side yard Driveway Other MAT 1332 - 89	Back yard Front yard Side yard Driveway Other, NP 1333.02
Category (circle)	FS) FD of EB LB	FD of EB LB	FD of EB LB
Matrix Type (Surface soil unless other wise noted)	Surface Soil Other	Surface Soil Other	Surface Soil Other
Type (circle)	Grab# subsamples = 0 Comp. # subsamples	Grab # subsamples = 0 ( Comp # subsamples	Grab # subsamples = 0 Comp. # subsamples
Sample Time	11310	12:10	12:21
Top Depth (inches below ground surface)	0	0	C
Bottom Depth (inches below ground surface)	3"	2"	2"
Field Comments  (Note if verniculite was not observed in sample. For 30-point composites, note total # of visual inspection points of low (L), intermediate (M), or high (H) levels of	□ no vermiculite observed		
vermiculite observed)	L: M: H:	L: M: H:	no vermiculite observed  H: M: H:
GPS File (fill in or circle)	Filename: NA	Filename:NA	Filename:NA
090526			
or Field Team Completion nitials)	Completed by. (\( \lambda \lambda \) QC by. gd.	For Data Entry Entered t QC by:	уу
or cFSDS validation	Validated	Validated	Validated
P.474	To:128625337	717825780P NNI Y	9- <u>20-2009 0</u> 8:1 <u>0 From:RODE</u> MA

Attachment 5
EMSL Laboratory Reports



Page 1 of 1

# EMSL Analytical, Inc.

107 Haddon Avenue

Westmont, New Jersey 08108

Phone: (856) 858-4800 Fax: (856) 858-9551



To: Scott Carney  EMR, Inc.  11 East Superior Street  Suite 260  Duluth, MN 55802	eet	Date: From: Re:	September 18,2009 Charles E. LaCerra Libby, MT BNSF Work Mobile Lab Analytical Reports See Below
Phone: 763-277-5200	)		
We are sending you: × A	Attached	of Letter	Under separate cover via Invoice #'s See Below
Subcontract	As no		Other
☐ Laboratory Samples	Analy	tical Repor	orts
These are transmitted as indica  Execute_Original(s)	_	ew & Com	nment
ReturnOrginal(s)	As R	equested	Respond as instructed
For Your Information/Fi	le		☐ Other
Remarks:			
Enclosed please find one (1) copy your review and use for the above		_	ile lab analytical reports for analysis for
270900755 270900756			
Please feel free to contact me with	h any question	ns or if you	ou require additional information
Copy to:		Signed	1: Charles La Cerra

EMSL

## STANDARD LABORATORY DATA PACKAGE CHECKLIST

Instructions: All applicable data package deliverables are included in the following nine pages. Using the print option will print out all forms necessary and in the appropriate order. Please provide information as directed.

## Analytical Test Report Bulk Asbestos Analysis by Polarized Light Microscopy (PLM)

Prepared For:	EMR, Inc. 11 East Superior Street	_	
City/State:	Duluth, MN 55802	_	
Laboratory Name:	EMSL Analytical, Inc.	_	
City/State:	Libby, Montana	_	
Laboratory Job No.: Method Utilized	270900755	_	
(SOP and Rev. No.):	SRC-Libby-03, Rev. 2		
Circle One:		_	
`	Visual Estimation Point Counting Approach	_	
Report Reviewed by:		_	
STANDARD LABOR	ATORY DATA PACKAGE CHECKLIST		
Instructions:	For PLM analytical results raw data packages, complete and sign the following checklist. Attach supporting documentation as outlined below. Organize the supporting documentation in the order listed below. Paginate the completed raw data package.	Laboratory Verification (Initials and Date)	Validator Verification (Initials and Date)
1	Number of samples received: 9		,
	An SDG is defined as no more than 200 samples.	1039/1109	914
	Additional Supporting Documentation: Attach COC forms having footer R (report).		•
2	<u>Date of sample receipt and condition of samples</u> : 8/28/2009 OK For Condition of samples enter "OK" or "See SDG Case Narrative".	1039/1/09	~ NA
3	SDG Case Narrative: Additional Supporting Documentation: Attach SDG Narrative and any modification forms.	UB 9/1/09	<u>a al 19/09</u>
4			
	Check for contamination (daily): Wipe microscope slides with lens paper before using.  Laboratory Verification initial and date signifies that this has been performed for the samples in this SDG.		A)A
5	Verification of the refractive indices of the refractive index liquids once per month:		
	Additional Supporting Documentation: Provide information indicating a monthly record of checking each of the four liquids including liquid name, lot number and analyst initials. (See table - Results of RI Liquids Calibration)	1439/1109	AIG
6	<u>Verification of microscope adjustments prior to each SDG:</u> Laboratory Verification initial and date signifies that this has been performed for the samples in this SDG.	KB 9/1/09	<u> </u>
7	Reference material - Visual Estimation Approach:  Laboratory Verification initial and date signifies that this has been performed for the samples in this SDG.	<u>kega/1/09</u>	N/A
	Reference material - Point Counting Approach:  Additional Supporting Documentation: Provide calibration curve documentation, printed from the EDD spreadsheet.	NA	- bl#
8	VE and/or PC hard copy data forms (as presented in the EDD spreadsheet):		
	Additional Supporting Documentation: Copies of the Hard Copy Data Forms for all investigative samples and laboratory duplicates will be provided from systems that are entered electronically.	KB9/1/09	De aprilog
9	Bench sheets for data results:		
	Additional Supporting Documentation: Provide copies of the hand written or LIMS system generated raw data sheets for sample results.	<u>UB 9/1/09</u>	or distos

COCs

## **Chain of Custody Record**

## **Libby Asbestos Investigation**

No.	D2652

 U.S. Environmental Protection Agency, Region VIII 999 18th Street, Suite 300 Denver, CO 80202-2413

Send to: EMSL-Mobile Lab
107th W 4th St
Libby, MT 59923

via: hand delivery

shipped

Date Shipped: \_\_\_\_ Carrier Name: \_\_\_\_ 8/27/2009 Fed-Ex

Airbill: \_\_\_

N/A

270900755

Sample Placed in Cooler/Bag	Index ID	Suffix ID*	Suffix #	Sample Date	Sample Matrix (S=Soil; W=Water; D=Dust; A=Air;B=Bulk Insulation)	Turn Around Time	Analysis Request	Comments	Sample Received by Lab
	RR-00219	FG	1	8/25/2009	SRIM	3 Day	PLM-VE (SRC-Libby-03 (rev 2))		1
	RR-00220	FG	1	8/26/2009	S	3 Day	PLM-VE (SRC-Libby-03 (rev 2))		V
	RR-00221	FG	1	8/26/2009	S	3 Day	PLM-VE (SRC-Libby-03 (rev 2))		IV
	RR-00321	FG	1	8/19/2009	s	3 Day	PLM-VE (SRC-Libby-03 (rev 2))		
	RR-00322	FG	1	8/19/2009	S	3 Day	PLM-VE (SRC-Libby-03 (rev 2))		
	RR-00323	FG	1	8/19/2009	S	3 Day	PLM-VE (SRC-Libby-03 (rev 2))		I I
	RR-00324	FG	1	8/19/2009	s	3 Day	PLM-VE (SRC-Libby-03 (rev 2))		V
	RR-00325	FG	1	8/19/2009	s	3 Day	PLM-VE (SRC-Libby-03 (rev 2))		The state of the s
	RR-00326	FG	1	8/19/2009	s	3 Day	PLM-VE (SRC-Libby-03 (rev 2))		F
			_				1.		

1089/1/09

*Suffix IDs: C= Coarse; B= Bulk; F= Fine; FG= Fine Ground; CA= Archi	ve Coarse; BA= Archive Bulk; FA	= Archive Fine; FGA=Archive Fine Ground		
Total Number of Samples		END OF SUBMITTAL		
Additional Comments:				OCH 989 082709
Caul Madud Company)			4/28/09 14 <sup>0</sup>	Sample Condition upon Receipt
Relinquished by (Signature and Company)	Date/Time / Date/Time	Received by (Signature and Company)	Date/Time	Sample Condition upon Receipt
Relinquished by (Signature and Company)	Date/Time	Received by (Signature and Company)	Date/Time	Sample Condition upon Receipt

# INTERNAL CHAIN OF CUSTODY

8/31/2009 9:26:35 AM

Order ID: 270900755

Attn:

Fax:

Project:

Scott Carney

EMR, Inc.

11 East Superior Street

Suite 260

Duluth, MN 55802

(218) 625-2337

Phone: (218) 625-2332

D2652

Samples collected 8/19, 25, and 26/2009

**Customer ID** 

Customer PO:

Received:

EMSL Order:

08/28/09 2:08 PM

EMRI78

270900755

BNSF 2009 OSHA

EMSL Proj ID: **Cust COC ID** 

Test: PLM Libby	VE <u>Ma</u>	atrix Soils	TAT:	72 Hour	Qt	<u>v:</u> 9
Acct Sts:	Slsprsn:	rdemalo	Logged: Sample Condition	jwyattpescador Acceptab	le	8/28/2009
Samples Relinque Samples Received Package Mailed	ed:	Date Date Date	Comments			
Method of Delive	ery:		Filter Prep	o (Initials/Lab): o (Initials/Lab):	WB	Date: 9/1/09 Date:
Benchsheets Micrographs	Sample Slides GridBox	Sample filters Other		(Initials/Lab): Projects Use Only:		Date:
Final Package Rec	eived:	Date:		kage Review: _(	<u> </u>	<u>Date: ବା ଧ୍ୟ</u> ତ୍ର Date: ବା <b>ଧ୍ୟ</b> ତ୍ର

## **Special Instructions**

Order ID	Lab Sample #	Cust. Sample #	Location	Due Date
270900755	270900755-0001	RR-00219	FG	8/31/2009 2:08:00 PM
270900755	270900755-0002	RR-00220	FG	8/31/2009 2:08:00 PM
270900755	270900755-0003	RR-00221	FG	8/31/2009 2:08:00 PM
270900755	270900755-0004	RR-00321	FG	8/31/2009 2:08:00 PM
270900755	270900755-0005	RR-00322	FG	8/31/2009 2:08:00 PM
270900755	270900755-0006	RR-00323	FG	8/31/2009 2:08:00 PM
270900755	270900755-0007	RR-00324	FG	8/31/2009 2:08:00 PM
270900755	270900755-0008	RR-00325	FG	8/31/2009 2:08:00 PM

# **INTERNAL CHAIN OF CUSTODY**

8/31/2009 9:26:35 AM

Order ID: 270900755

Attn:

**Scott Carney** 

EMR, Inc.

11 East Superior Street

Suite 260

D2652

Duluth, MN 55802

Fax: Project:

(218) 625-2337

Phone: (218) 625-2332

EMSL Order: 270900755

EMSL Proj ID:

Customer ID

Received:

**Customer PO:** 

BNSF 2009 OSHA

08/28/09 2:08 PM

EMRI78

**Cust COC ID** 

**PLM Libby VE** Test:

**Matrix** 

Soils

TAT:

72 Hour

Qty:

9

270900755

270900755-0009

Samples collected 8/19, 25, and 26/2009

RR-00326

FG

8/31/2009 2:08:00 PM

8/31/2009 9:27:17 AM

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		Order ID: 27	70900755			
Fax: (	Scott Carney EMR, Inc. 11 East Superior Street Suite 260 Duluth, MN 55802 (218) 625-2337 PD2652 Samples collected 8/19, 25, and	rhone: (218) 625-2 nd <b>26/2009</b>	Customer ID: Customer PO: Received:  332  EMSL Order: EMSL Proj ID: Cust COC ID	08/28/09 2:08 PM 270900755		
est: PLM	l Libby VE	<u>Ma</u>	trix: Soils	TAT: 72 Hour	· · · · · ·	<u>Qty:</u> 1
rder ID	Lab Sample #	Cust. Sampl	e# Location	, , , , , , , , , , , , , , , , , , ,	Due Date	
70900755	270900755-0001	RR-00219	FG		8/31/2009	2:08:00 PM
			ANALYZED: Preliminary Data Sent to Special Projects: Data Entry: Structure Review: Data Valildation: Reported to Client:	VB REM QL ILL KL	Date: Date: Date: Date: Date: Date:	9/1/09 9/2/09 9/4/09 9/4/09
			Micrographs:  Microgra	aph Number	Diffraction	Type on or Morphology

8/31/2009 9:27:17 AM

Order ID:	270900755	
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Attn:

Fax:

Scott Carney

EMR, Inc.

11 East Superior Street

Suite 260

Duluth, MN 55802

(218) 625-2337

Phone: (218) 625-2332

D2652 Project:

Samples collected 8/19, 25, and 26/2009

Customer ID:

Customer PO:

Received:

08/28/09 2:08 PM

EMSL Order:

270900755 BNSF 2009 OSHA

EMRI78

EMSL Proj ID: **Cust COC ID** 

Test: PLM Libby VE

Matrix: Soils

TAT: 72 Hour

**Qty:** 1

**Order ID** 

Lab Sample #

Cust. Sample #

Location

**Due Date** 

270900755

270900755-0002 RR-00220 FG

8/31/2009 2:08:00 PM

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to Special Projects:	RKM	_	9/2/09
Data Entry:	Oi_	Date:	9/2/09
Structure Review:		Date:	
Data Valildation:	<b>V</b> L	Date:	9/4/09
Reported to Client:	KL	Date:	9/4/09

Micrographs:

Micrograph Number	Type Diffraction or Morphology				

8/31/2009 9:27:17 AM

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		Order ID: 27	70900755			
Attn:	Scott Carney EMR, Inc. 11 East Superior Street Suite 260 Duluth, MN 55802		Customer II Customer P Received:			
Fax: Project:	(218) 625-2337 P D2652 Samples collected 8/19, 25, ar	hone: (218) 625-23 nd <b>2</b> 6/ <b>2009</b>	EMSL Orde EMSL Proj l Cust COC l	ID: BNSF 2009 OSHA		
est: PLI	M Libby VE	<u>Mat</u>	trix: Soils	TAT: 72 Hour		<u>Qty:</u> 1
rder ID	Lab Sample #	Cust. Sampl	e# Location		Due Date	
7090075	5 270900755-0003	RR-00221	FG		8/31/2009	2:08:00 PM
Comme	nts:					
			ANALYZED:	)CB	Date:	9/1/09
		<u> </u>	Preliminary Data Ser to Special Projects:		Date:	9/2/09
		1 -	Data Entry: Structure Review:	<u>a</u>	Date:	9/2/09
			Data Valildation:	KL	Date:	વીપોજ
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			Micrographs: Microg	graph Number	Diffraction	Type on or Morphology

8/31/2009 9:27:18 AM

Order ID: 270900755 Scott Carney Attn: Customer ID: EMRI78 EMR, Inc. Customer PO: 11 East Superior Street Received: 08/28/09 2:08 PM Suite 260 Duluth, MN 55802 Fax: (218) 625-2337 Phone: (218) 625-2332 EMSL Order: 270900755 D2652 Project: EMSL Proj ID: BNSF 2009 OSHA Samples collected 8/19, 25, and 26/2009 **Cust COC ID** Test: PLM Libby VE TAT: 72 Hour Matrix: Soils **Qty:** 1 Order ID Lab Sample # Cust. Sample # Location **Due Date** 270900755 270900755-0004 RR-00321 FG 8/31/2009 2:08:00 PM Comments: ANALYZED: WB Date: Preliminary Data Sent Date: to Special Projects: RK 9/2/69 Data Entry: Date: oc Structure Review: Date: Data Valildation: Date: KL Reported to Client: Date:

Micrograph Number	Type Diffraction or Morphology

8/31/2009 9:27:18 AM

Order ID: 270900755 Attn: Scott Carney Customer ID: EMRI78 EMR, Inc. Customer PO: 11 East Superior Street Received: 08/28/09 2:08 PM Suite 260 Duluth, MN 55802 Fax: (218) 625-2337 Phone: (218) 625-2332 EMSL Order: 270900755 D2652 Project: EMSL Proj ID: BNSF 2009 OSHA Samples collected 8/19, 25, and 26/2009 **Cust COC ID** TAT: 72 Hour Test: PLM Libby VE Matrix: Soils **Qty:** 1 Order ID Lab Sample # Cust. Sample # Location **Due Date** 8/31/2009 2:08:00 PM 270900755 270900755-0005 FG RR-00322 Comments: ANALYZED: Date: CB Preliminary Data Sent Date: to Special Projects: Rlan 9/2/09 Data Entry: Date: a Structure Review: Date: **Data Valildation:** Date: KL Reported to Client: KL Date: Micrographs: Micrograph Number Type Diffraction or Morphology

8/31/2009 9:27:18 AM

Order ID: 270900755 Scott Carney Attn: Customer ID: EMRI78 EMR, Inc. Customer PO: 11 East Superior Street 08/28/09 2:08 PM Received: Suite 260 Duluth, MN 55802 Fax: (218) 625-2337 Phone: (218) 625-2332 EMSL Order: 270900755 D2652 Project: EMSL Proj ID: BNSF 2009 OSHA Samples collected 8/19, 25, and 26/2009 **Cust COC ID** Test: PLM Libby VE TAT: 72 Hour Matrix: Soils **Qty:** 1 Order ID Cust. Sample # Lab Sample # Location **Due Date** 270900755 8/31/2009 2:08:00 PM 270900755-0006 RR-00323 FG Comments: **ANALYZED:** Date: Preliminary Data Sent Date: RKen to Special Projects: 9/2/09 Data Entry: Date: Structure Review: Date: 20 **Data Valildation:** Date: KL Reported to Client: Date: KL Micrographs: Micrograph Number Type Diffraction or Morphology

8/31/2009 9:27:18 AM

Order ID: 270900755 Attn: Scott Carney Customer ID: EMRI78 EMR, Inc. Customer PO: 11 East Superior Street Received: 08/28/09 2:08 PM Suite 260 Duluth, MN 55802 Fax: (218) 625-2337 Phone: (218) 625-2332 EMSL Order: 270900755 D2652 Project: EMSL Proj ID: BNSF 2009 OSHA Samples collected 8/19, 25, and 26/2009 **Cust COC ID** TAT: 72 Hour **Test: PLM Libby VE** Matrix: Soils **Qty:** 1 Cust. Sample # Order ID Lab Sample # Location **Due Date** 270900755 FG 270900755-0007 8/31/2009 2:08:00 PM RR-00324 Comments: ANALYZED: MB Date: Preliminary Data Sent Date: to Special Projects: RICM 9/2/09 Data Entry: Date: On Structure Review: Date: Data Valildation: Date: X Reported to Client: Date: 14 Micrographs: Micrograph Number Type Diffraction or Morphology

8/31/2009 9:27:19 AM

		Order ID: 2709		7		•
	Scott Carney EMR, Inc. 11 East Superior Street Suite 260 Duluth, MN 55802		Customer ID: Customer PO: Received:	EMRI78 08/28/09 2:08 PM		
Fax: Project:		Phone: (218) 625-2332 nd 26/2009	EMSL Order: EMSL Proj ID: Cust COC ID	270900755 BNSF 2009 OSHA		
est: PLN	/I Libby VE	<u>Matrix</u>	<u>«</u> Soils	<u>TAT:</u> 72 Hour		<u>Qty:</u> 1
rder ID	Lab Sample #	Cust. Sample #	Location		Due Date	
70900755	270900755-0008	RR-00325	FG		8/31/2009	2:08:00 PM
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			ructure Review:		Date:	
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8/31/2009 9:27:19 AM

		Order ID: 2709007	55			
EM 11 Sui	ott Carney IR, Inc. East Superior Street ite 260 lluth, MN 55802		Customer ID: Customer PO: Received:	EMRI78 08/28/09 2:08 PM		
Fax: (21 Project: <b>D2</b>		Phone: (218) 625-2332 nd 26/2009	EMSL Order: EMSL Proj ID: Cust COC ID	270900755 BNSF 2009 OSHA		
st: PLM L	ibby VE	<u>Matrix:</u> S	oils <u>T</u>	<b>AT:</b> 72 Hour		Qty: 1
der ID	Lab Sample #	Cust. Sample #	Location		Due Date	
0900755	270900755-0009	RR-00326	FG		8/31/2009	2:08:00 PM
		Prelim	YZED: inary Data Sent	KB	Date:	9/1/09
		Data E		Rim	Date:	9/2/09
			ure Review:		Date:	
			alildation: ted to Client:	KL	Date:	<u>ભાપાઠ</u> 9
		Microgra	<u> </u>	oh Number	Diffraction	Type on or Morpholog

## SDG NARRATIVE

instructions: The following information should be included in all narratives. Please see the attached narrative template.

- 1 List the method or methods used.
- 2 For any modifications, reference the modification number and attach a copy of the signed document to the raw data package.
- 3 If sample condition is not "OK", explain why and any implications to the data.



# ANALYTICAL, INC.

http://www.emsl.com

Corporate Office & Lab 107 Haddon Avenue Westmont, NJ 08108 1-800-220-3675 1-856-858-4800

September 18, 2009

Scott Carney EMR, Inc. 11 East Superior Street Suite 260 Duluth, MN 55802 218-625-2337

RE:

SDG Narrative – PLM Analysis by SRC-Libby-03, Revision 2

EMSL Analytical, Inc. Laboratory Order ID: 270900755

#### Dear Scott:

Nine (9) samples were received in a sealed box on 8/28/09 and signed for by the sample-receiving clerk. These samples were assigned to an internal EMSL laboratory order ID number of 270900755, each sample was assigned a unique, sequential laboratory ID number, and the job was entered into the Laboratory Information System (LIMS). The laboratory ID numbers and the login information are summarized on the EMSL internal Chain of Custodies. Sample condition and signatures are recorded on Chain of Custody D2652 as submitted by CDM Libby, MT.

These samples were analyzed in accordance with SRC-Libby-03, Revision 2 for the Analysis of Asbestos Fibers in Soil by Polarized Light Microscopy, Visual Estimation Approach, with modifications described in Laboratory Modification document:.

Results were e-mailed to the Libby Distribution Group on 9/4/09. If you have any questions or require additional information, please do not hesitate to contact me at 856-858-4800, ext. 1253.

Sincerely,

EMSL Analytical, Inc.

Charles LaCerra

Special Projects Manager

#### REFRACTIVE INDEX LIQUIDS

Instructions: Please see and follow attached table from Shu-Chun Su, Technical Expert for NVLAP Asbestos Programs. (Suggested Format for Recording Results of Rt Liquids Calibration using Cargille Glass Standard and Dispersion Staining Method - Version: February 1996)

#### The following components are included in the table:

- 1 Date
- 2 Nominal or Labeled no 25 degree Celsius
- 3 Cargitle Glass
- 3a Nominal or Labeled R.I.
- 3b Lot No.
- 4 Central Stop DS Observation
- 4a Predominant DS Color
- 4b Corresponding alpha<sub>p</sub>
- 5 Liquid or Room Temperature (degree Celsius)
- 6 Actual or Calibrated no 25 degree Celsius
- 7 Difference between Calibrated no 25 degree Celsius and Labeled no 25 degree Celsius
- 8 Accept or Reject
- 9 Analyst

# Calibration Of Common RI Oils

Date:

8/24/09

RI	Oil	CARGILLE C	LASS	CENTRAL	STOP DS					
N <sub>D</sub>	Lot#	Labeled RI	Lot#	DS Color	λο	dN <sub>D</sub> /dt	T <sub>R</sub>	N <sub>x</sub>	N <sub>D</sub> -N <sub>X</sub>	Accept or Reject
1.550	1361911	1.550	i c		620	4.91E-04	20.4	J.551	0.001	ACCEPT
1.605	0701	1.600	B	II Bue	660.	4.41E-04	204	1.601	0.004	ACCEPT
1.625	0807	1.625	B		600	4.80E-04	20.4	1.623	0.002	ACCEPT
1.680		1.680	i e		620		2014	1.679	0.001	ACCEPT
1.700		1.700				4.80E-04	#####**		1.700	REJECT

From Su (1996) Ri Oil Conversion Tables (except 1.625 from Su Spreadsheet)
(Available in EMSL's Ri Calibration SOP)
Temperture Corrected

No=The Refracted Index the Manufacturer Calibrated for the Oli At 25° C

 $\lambda_0$  = Associated wavelength of observerd Dispersion Staining Color (from McCrone color chart)

8/24/09

dnp/dt=The Change in Refractive Index per Degree Celsius from RI Oil bottle

T<sub>R</sub>=Room Temperature at the Time of the Calibration in °C

N<sub>X</sub>=The Refractive Index Measured During Calibration

Analyst:

Signature / Date

Controlled Document
Confidential Business Information/ Property of EMSL Analytical, Inc.

#### **SAMPLE RESULTS**

### See Attached Sample Results

Instructions: These sample result forms are from the PLM (VE & PC) Data Sheet and EDD v4.xis file. They are labeled in this file as the VE or PC hard copy data form.

Samp_No	Location	Sub_Location	Matrix	Analyte	Results_Qualifier	Result	Result_Units	Analytical_Method	Reporting_Limit
54210	54218	W1-DOZER	Air	Asbestos PCM		0.0073	fibers/cc	NIOSH 7400 PCM	0.0036
54211	54219	W2-EXCAVATOR	Air	Asbestos PCM	<	0.0030	fibers/cc	NIOSH 7400 PCM	0.0030
54212	54220	W3-DUMP TRUCK	Air	Asbestos PCM		0.0050	fibers/cc	NIOSH 7400 PCM	0.0025
54213	54221	27	Air	Asbestos PCM	<	0.0006	fibers/cc	NIOSH 7400 PCM	0.0006
54214	54222	28	Air	Asbestos PCM	<	0.0006	fibers/cc	NIOSH 7400 PCM	0.0006
54215	54223	11	Air	Asbestos PCM	<	0.0006	fibers/cc	NIOSH 7400 PCM	0.0006
54216	54224	25	Air	Asbestos PCM		0.0007	fibers/cc	NIOSH 7400 PCM	0.0006
54217	54225	FIELD BLANK	Air	Asbestos PCM	<	7.0	fibers/mm2	NIOSH 7400 PCM	7.0

Reporting_Limit_Units	WA#	QC_Type	Date_Analyzed
fibers/cc	218-09/02/09-0053	N/A	9/3/2009
fibers/cc	218-09/02/09-0053	N/A	9/3/2009
fibers/cc	218-09/02/09-0053	N/A	9/3/2009
fibers/cc	218-09/02/09-0053	N/A	9/3/2009
fibers/cc	218-09/02/09-0053	N/A	9/3/2009
fibers/cc	218-09/02/09-0053	N/A	9/3/2009
fibers/cc	218-09/02/09-0053	N/A	9/3/2009
fibers/mm2	218-09/02/09-0053	N/A	9/3/2009

FILE NAME:

EMSL27\_270900755\_PLM\_VE.xls

Version: 7c

#### PLM VISUAL ESTIMATION DATA RECORDING SHEET

Data Entry by: L. Ramowski
Data Entry Date: 9/2/2009

QC Check by: K. Lüsher Company QC Check Date: 9/4/2009

							Stereomicroscopy   Examination	Libby	Amphibol	e (LA)	Ot	her Amph	ibole (OA)	Chrys	otile (Ch)		_
	Suffix	Suffix	QA Type (NOT QA,		Date				LA-MF			OA-AF	OA Type (AMOS, ANTH,		Ch-AF		
EPA Index ID	Char.	No.	LDS, LDC)	Lab Sample ID	Analyzed	Analyst Name	Sample Appearance	Qual	(%)	Bin	Qual	(%)	CROC, UNK)	Qual	(%)	Deviation?	Comments
RR-00219	FG	· 1	Not QA	270900755-0001	9/1/2009	K. Barnes	e,non-fibrous,homogen	ND:	5 5 5 F	Α	ND	100 mg 120	to the lag and	ND		0.000	图 45 基本联合。 电图象容量
RR-00220	FG	. 1	Not QA	270900755-0002	9/1/2009	K. Barnes	e,non-fibrous,homogen	ND	J 200	Α	ND.	Terrage 1	e Berneta (NE)	ND	w." : 's	1	
RR-00221	FG	1	Not QA	270900755-0003	9/1/2009	K. Barnes	non-fibrous homogene	ND	25 P. S. (42.4)	Α	ND .	att 500	Esperantin a 100	- ND	177 11	+ + 122	
RR-00321	FG	11::::::	Not QA	270900755-0004	9/1/2009	K. Barnes	non-fibrous,homogene	ND *	STATE OF THE	Α	ND	and the Time	eşiyak direji	ND:	N1 12 5	1.5 51	AN CHEATHAGES IN
RR-00322	FG	<b>ૈ.ી.</b> ા	Not QA	270900755-0005	9/1/2009	K. Barnes	non-fibrous homogene	ND	premium's	Α	ND	Eddy's st	Postujal stavy	ND	District part	Less - William	<1% cellulose
RR-00323	FG	1	Not QA	270900755-0006	9/1/2009	K. Barnes	non-fibrous,homogene	ND	7.14.16.56	A	ND	Programs	Harrist St. 14	ND	and-	5.5 ( ) 4	\$6.00mm。 \$1.00mm。 \$1.00mm。 \$1.00mm。
RR-00324	FG	,1 s	Not QA	270900755-0007	9/1/2009	K. Barnes	non-fibrous homogene	ND	71. ap. 3.1	Α	ND	300.000	eri i pertigostra	ND	31 S. F. C.	20,259,000	那个人,这种别数是一种的工作的
RR-00325	FG	1.1	Not QA	270900755-0008	9/1/2009	K Barnes	non-fibrous,homogene	· · · ND		A	ND	3/4 Mary 18 18	n, Tevrebrüssebi	ND	C205334	7 (3 A D (5A)	Strategic Control of the Control of
RR-00326	FG	· 1.	Not QA	270900755-0009	9/1/2009	K. Barnes	non-fibrous,homogene	ND	11.0	Α	ND	egy troops	<ul> <li>As a first start or</li> </ul>	ND		10 miles (1984)	Procedure San Alberta

#### BENCH SHEETS

instructions: Please provide handwritten or LIMS system generated raw data sheets for sample results.

### PLM VISUAL ESTIMATION DATA RECORDING SHEET

Laboratory Name EMSL27	
Job Number 270900755	

Date Received 8/28/2009

SOP Name/Revision SRC-Libby-03 (Rev. 2)

	1		0.7				Stereo	microsco	py Examina	ition		Libby A	mphibole		Other Am	phibole
EPA Index ID	Index Suffix	Index Suffix	QA Type (NOT QA,	Lab Sample ID	Date Analyzed	Analyst Name			t. % LA	Est. %	OA and C	Qual				OA Type
	Char.	No.	LDS, LDC)				Sample Appearance	Qual (ND, Tr, <)_	1 {%}	Qual (ND, <)	Area Fract (%)	(ND, Tr, <)	Mass Fract (%)	Qual (ND, <)	Area Fract (%)	(AMOS, ANTH, CROC, UNK)
RR-00219	FG	1	Not QA	270900755-0001	9/1/09	K. Barnes	white, non-fibra		0	ND	٥	ND		ND		
RR-00220	FG	1	Not QA	270900755-0002	9/1/69	K. Barnes	hanogeneous	ハレ	0	ND	0	ND		ND		· 
RR-00221	FG	1	Not QA	270900755-0003	9/1109	K. Barnes	Tan, non-fibrous	טמן	0	DN	0_	ND		ND		
RR-00321	FG	1	Not QA	270900755-0004	9/1/09	K. Barnes	Tan, non-fibrous	NU	0	DD)	0	ND		ND		
RR-00322	FG	1	Not QA	270900755-0005	9/1/09	K. Barnes	Tan, non-fibrous	ND	0	ND	0	スぴ		NO		
RR-00323	FG	1	Not QA	270900755-0006	9/1/09	K. Barnes	tan, non-fibrous	ND	0	ND	0	ND		ND		
RR-00324	FG	1	Not QA	270900755-0007	9/1/09	K. Barnes	Tan, non-fibrace normaline ous Tan, non-fibras	1	Ø	ND		ND		ND		
RR-00325	FG	1	Not QA	270900755-0008	9/1/09	K. Barnes	Tan, non-fibrous	ND	0	ND	0	ND		ND		
RR-00326	FG	1	Not QA	270900755-0009	9/1/09	K. Barnes	homogeneous	ND	0	ND	0	2D		7D		
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note. Data Necolding Sheet is formatted to print of 11x1/ paper	Sheet is formatted to print on 11x17 paper.
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	Chr	ysotile						AL PROP				
	Qual (ND, <)	Area Fract (%)	Deviation?	Comments (list below)	Morph.	Fiber Color	Sign Elong. (+/-)	Pleoch. (Y/N)	Angle Extinct.	Ref. Index a	Ref. Index Y	Biref.
RR-00219	ND									_	-	
RR-00220	NP											
RR-00221	ND											
RR-00321	ND											
RR-00322	ND											
RR-00323	ND											
RR-00324												
RR-00325	NP											
RR-00326	ND											
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			13.6									
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				•								

### Y WILL VE LONE VILLOT VOLKEVILI)

## Polarized Light Microscopy (PLM) Performed on Soil Samples by NIOSH Method 9002, Issue 2

Client:	Corp.	Logged:		TAT:	2 delication of the same of th
Address:		Date/Time Due:			
	aliloo		Special Instructions		Order Number
Fax:					
Project:					2700074
					270900755

			_			01/001/	- T. (T. T. (1)	DE0				1000		
Macros	conic	Tro	atment	Asbesto		OMPON Fibr			Non-Fib				DSCOPIC	
COLOR (C 1 Brown 4 White 2 Gray 5 Red 3 Tan 6 Variou TEXTURE ( 1 Fibrous 2 Non-Fi	7 Black 8 Silver s 9 Blue 10 Yellow	1 Te 2 Cr 3 Di 4 As 5 He 6 Me	ased 1 ushed 2 ssolve 3 hed 4 ated 5	Chrysotile Amosite Anthophyllit Tremolite Actinolite Crocidolite	e	7 Cellul 8 Glass 9 Min. W 10 Synthe 11 Other 12 Wollas 13 Hair	ose ool tic	14 Quar 15 Mica 16 Gyps	tz sum Carbona ix ite		Wavy     Straight     Straight     Uniform Diamet     Ribbon-Like     Tapered Ends  Pleochroism (P)     Yes     No	rphology (M) 6. Scaled 7. Pitted	1.+ 2 3. Variable  (B) Fiber Color (F0) 1 White 2 Brown 3 Beige	Elongation (S)
HOMOGENEIT 1 Homogeneous 3			Stereo Asbestos	Asbestos	% of	_	ther	Non-l	Fibrous	Non-Asb Char.		None G.UU or Bo	5 Green 6 Colorless	4. Unquiose
Sample	Macrosc.	Treat	Est. %	Туре	Asbestos	Туре	%	Туре	<u>%</u>	Ex. E4		Optical	Properties	
	(C) 4			ND	0	Section 201	_	20	100			⊥ R.I.		R.I.
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	(H) 1/1/09	no									"-¬	М		S
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Analyst: KBarrer	Date:	9/1/09	_ Computer:		Date:	
Room Temp (C): 21.9			EMSL Analytical Inc., 10	7 West 4th Street Libby M	IT 59923	PLM7.9.0



STANDARD LABORATORY DATA PACKAGE CHECKLIST All applicable data package deliverables are included in the following nine pages. Using the print option will print out Instructions: all forms necessary and in the appropriate order. Please provide information as directed. Laboratory Name: EMSL27 City/State: Libby, MT Laboratory Job No .: 270900756 Method Utilized (SOP and Rev. No.): SRC-LIBBY-01 Revision 2 PLM-Gravimetric For Gravimetric analytical results raw data packages, complete and sign the following Instructions: checklist. Attach supporting documentation as outlined below. Organize the supporting documentation in the order listed below. Paginate the completed raw data package. Validator Laboratory Verification Verification (Initials and (Initials and Date) Date) Number of samples received: 7 1 VB 8/31/09 An SDG is defined as no more than 100 samples. Additional Supporting Documentation: Attach COC forms having footer R (report). Date of sample receipt and condition of samples: 8/28/2009 2 For Condition of samples enter "OK" or "See SDG Case Narrative". 3 SDG Case Narrative: Additional Supporting Documentation: Attach SDG Narrative and any modification forms. 4 Check for contamination (daily): Wipe microscope slides with lens paper before using. Laboratory Verification initial and date signifies that this has been performed for the samples VB8131109 in this SDG. 5 Verification of the refractive indices of the refractive index liquids once per month: Additional Supporting Documentation: Provide information indicating a monthly record of checking each of the four liquids including liquid name, lot number and analyst MB8/31/09 initials. (See table - Results of RI Liquids Calibration) Verification of microscope adjustments prior to each SDG: 6 Laboratory Verification initial and date signifies that this has been performed for the samples KB 8/3/109 in this SDG. Gravimetric hard copy data forms (as presented in the EDD spreadsheet): 7 Additional Supporting Documentation: Copies of the Hard Copy Data Forms for all investigative samples and laboratory duplicates will be provided from systems that are entered electronically. 8 Bench sheets for data results:

Additional Supporting Documentation: Provide copies of the hand written or LIMS

system generated raw data sheets for sample results.

COCs

From: <u>CD</u> <u>27</u>	14 Walnut S				U.S. Environs				107 Libb	SL-Mobile Lab th W 4th St by, MT 59923 hand delivery Date Shipped:	<b>✓</b> sh			· 
							270900756			Carrier Name:		F	ed-Ex	ζ.
Sample Placed in Cooler/Bag	index iD	Suffix ID*	Suffix #	Sample Date	Sample Matrix (S=Soll; W=Water, D=Dust; A=Air;B=Bulk Insulation)	Turn Around Time	Analysis Reques	it		Comme	nts		Rece	imple lived by Lab
Γ	RR-00221	С		8/26/2009	s	3 Day	PLM-GRAV (SRC-Libby-C	1 (rev 2))						_
Γ	RR-00321	С		8/19/2009	S	3 Day	PLM-GRAV (SRC-Libby-C	1 (rev 2))						
	RR-00322	С		8/19/2009	S	3 Day	PLM-GRAV (SRC-Libby-C	11 (rev 2))						
Γ	RR-00323	С		8/19/2009	s	3 Day	PLM-GRAV (SRC-Libby-C	1 (rev 2))						
	RR-00324	С		8/19/2009	S	3 Day	PLM-GRAV (SRC-Libby-C	11 (rev 2))						$\overline{}$
	RR-00325	С		8/19/2009	S	3 Day	PLM-GRAV (SRC-Libby-C	1 (rev 2))						
	RR-00326	С		8/19/2009	S	3 Day	PLM-GRAV (SRC-Libby-C	1 (rev 2))			.,			
"Suffix IDa; C= Cc	oarse; B= Bulk; F= Fi	ine; FG= Fine Ground;	CA= Archive C	oarse; BA= Archive	Bulk; FA= Archive Fine; FC	3A=Archive Fine Gro	ound							

**END OF SUBMITTAL** Total Number of Samples COC Revised to change Revision from 1 to 2. 9:00 AM Date/Time Sample Condition upon Receipt Relinquished by (Signature and Company) Date/Time Received by (Signature and Company) Date/Time Sample Condition upon Receipt

### **Chain of Custody Record**

### **Libby Asbestos Investigation**

No.	D2653

From: CDM
2714 Walnut St
Denver, CO 80205

U.S. Environmental Protection Agency, Region VIII 999 18th Street, Suite 300 Denver, CO 80202-2413

Send to: EMSL-Mobile Lab	
107th W 4th St	
Libby, MT 59923	•

via: hand delivery shipped

 Date Shipped:
 8/27/2009

 Carrier Name:
 Fed-Ex

 Airbill:
 N/A

270900756

Sample Placed in Cooler/Bag	Index ID	Suffix ID*	Suffix #	Sample Date	Sample Matrix (S=Soil; W=Water; D=Dust; A=Air;B=Bulk Insulation)	Turn Around Time	Analysis Request	Comments	Sample Received by Lab
	RR-00221	С		8/26/2009	S	3 Day	PLM-GRAV (SRC-Libby-01 (rev 1))		V
	RR-00321	С		8/19/2009	S	3 Day	PLM-GRAV (SRC-Libby-01 (rev 1))		1
	RR-00322	С		8/19/2009	S	3 Day	PLM-GRAV (SRC-Libby-01 (rev 1))		TV.
	RR-00323	С		8/19/2009	S	3 Day	PLM-GRAV (SRC-Libby-01 (rev 1))		12
	RR-00324	. С		8/19/2009	S	3 Day	PLM-GRAV (SRC-Libby-01 (rev 1))		III
	RR-00325	С		8/19/2009	S	3 Day	PLM-GRAV (SRC-Libby-01 (rev 1))		1
	RR-00326	С		8/19/2009	S	3 Day	PLM-GRAV (SRC-Libby-01 (rev 1))		W
					•		<u> </u>		



			19		
*Suffix IDs: C= Coarse; B= Bulk; F= Fine; FG= Fine Ground; CA= Archive C	coarse; BA= Archive Bulk; F	A= Archive Fine; FGA=Archive Fine Ground			,
Total Number of Samples7		END OF SUBMITTAL			
Additional Comments:				00'd 989082709	_
Relinquished by (Signature and Company)  ELLA MAH flacelor/EMSL  Relinquished by (Signature and Company)	27   09   37 mm   1030   Date   107   1021   Date   Time	Received by (Signature and Company)  Received by (Signature and Company)  Received by (Signature and Company)	<b>男/2g/09/140</b> Date/Time いかっそ そ:00 Date/Time	Sample Condition upon Receipt	
Relinquished by (Signature and Company)	Date/Time	Received by (Signature and Company)	Date/Time	Sample Condition upon Receipt	

### **INTERNAL CHAIN OF CUSTODY**

8/31/2009 9:29:25 AM

Order ID: 270900756

Attn:

Fax:

**Scott Carney** 

EMR, Inc.

11 East Superior Street

Suite 260

Duluth, MN 55802

(218) 625-2337

Phone: (218) 625-2332

Project: D2653

Samples collected 8/19 and 26/2009

**Customer ID** 

Customer PO:

Received:

EMRI78

08/28/09 2:08 PM

EMSL Order:

270900756

EMSL Proj ID:

BNSF 2009 OSHA

Cust COC ID

Test: PLM Libb	y Gravimetric M	atrix Soils	<b>TAT:</b> 72 Hour	<u>Qty:</u> 7
Acct Sts:	Sisprsn:	rdemalo	Logged: jwyattpescador  Sample Condition: Unacceptable	Date: 8/28/2009
Samples Reline	ved:	Date	Comments	
Method of Deli-	<del></del>	Date	Initial Prep (Initials/Lab): WC Filter Prep (Initials/Lab):	Date: 8/31/9/6/09 Date:
Benchsheets Micrographs	Sample Slides GridBox	Sample filters Other	Grid Prep (Initials/Lab):  For Special Projects Use Only:	Date:
Final Package Re	eceived:	Date:	QC Selection:  Date Package Review: Qu	
Special Instruction	ons		صو : Date Package Mailed	<u>Date:</u> 9/♠9009

### Special Instructions

Order iD	Lab Sample #	Cust. Sample #	Location	Due Date
270900756	270900756-0001	RR-00221	С	8/31/2009 2:08:00 PM
270900756	270900756-0002	RR-00321	C	8/31/2009 2:08:00 PM
270900756	270900756-0003	RR-00322	С	8/31/2009 2:08:00 PM
270900756	270900756-0004	RR-00323	С	8/31/2009 2:08:00 PM
270900756	270900756-0005	RR-00324	С	8/31/2009 2:08:00 PM
270900756	270900756-0006	RR-00325	С	8/31/2009 2:08:00 PM
270900756	270900756-0007	RR-00326	С	8/31/2009 2:08:00 PM

8/31/2009 9:29:40 AM

			Order ID:	270900756				
Attn:	Scott Carney				Customer ID:	EMRI78		
	EMR, Inc. 11 East Superior	Street			Customer PO:			
	Suite 260				Received:	08/28/09 2:08 PM		
<b></b>	Duluth, MN 5580		h (048) 606	- 0000				
Fax: Project:	(218) 625-2337 D2653	P	hone: (218) 625		EMSL Order:	270900756		
riojeci.	Samples collect	ed 8/19 and 20	6/2009		EMSL Proj ID: Cust COC ID	BNSF 2009 OSHA		
					0431 000 12			
est: PL	M Libby Grav	imetric	<u>M</u>	latrix: Soils		AT: 72 Hour		<u>Qty:</u> 1
rder ID			Cust. Sam		ocation.		Due Date	
		ample #		<del> </del>				0.00.00 DM
090075	56 270900	0756-0001	RR-00221	C	į		8/31/2009	2:08:00 PM
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				ANALYZED	):	WB .	Date:	8/31/09
				ANALYZED Preliminary			Date:	9,91,
				Preliminary to Special P	Data Sent	KB Rlam	Date:	8/31/09
				Preliminary to Special P Data Entry:	Data Sent Projects:		Date:	
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8/31/2009 9:29:40 AM

		Order ID: 2	270900756				
EN 11	cott Carney MR, Inc. I East Superior Street			Customer ID: Customer PO: Received:	EMRI78 08/28/09 2:08 PM		
Su Du	uite 260 uluth, MN 55802			rtocivos.	00/20/00 2:00 1 141		
	18) 625-2337 P <b>2653</b>	hone: (218) 625-	-2332	EMSL Order:	270900756		
	amples collected 8/19 and 20	6/2009		EMSL Proj ID: Cust COC ID	BNSF 2009 OSHA		
est: PLM I	Libby Gravimetric	<u>M</u>	atrix: Soils	<u></u>	AT: 72 Hour		Qty: 1
order ID	Lab Sample #	Cust. Sam	ple # i	.ocation		Due Date	
70900756	270900756-0002	RR-00321		C		8/31/2009	2:08:00 PM
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			to Special I Data Entry:		RKM Qin	Date:	9/1/09
			Structure R			Date:	440-1
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			Micrographs:				· .
				Micrograp	h Number	Diffraction	Type on or Morpholo

8/31/2009 9:29:41 AM

Order ID: 270900756 Attn: Scott Carney Customer ID: EMRI78 EMR, Inc. Customer PO: 11 East Superior Street Received: 08/28/09 2:08 PM Suite 260 Duluth, MN 55802 (218) 625-2337 Fax: Phone: (218) 625-2332 EMSL Order: 270900756 D2653 Project: EMSL Proj ID: BNSF 2009 OSHA Samples collected 8/19 and 26/2009 Cust COC ID **Test: PLM Libby Gravimetric** TAT: 72 Hour Matrix: Soils **Qty:** 1 Order ID Lab Sample # Cust. Sample # Location **Due Date** 270900756 270900756-0003 RR-00322 C 8/31/2009 2:08:00 PM Comments: KB **ANALYZED:** Date: Preliminary Data Sent Date: to Special Projects: Rlan 9/1/09 Data Entry: Date: Or Structure Review: Date: Data Valildation: Date: χi Reported to Client: Date: Micrographs: Micrograph Number Type Diffraction or Morphology

8/31/2009 9:29:41 AM

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Attn:	Scott Carney EMR, Inc. 11 East Superior Street Suite 260 Duluth, MN 55802	(5.16) 55-		Customer ID: Customer PO: Received:	EMRI78 08/28/09 2:08 PM		
Fax: Project:	(218) 625-2337 Pl D2653 Samples collected 8/19 and 26	hone: (218) 625- 6/2009		EMSL Order: EMSL Proj ID: Cust COC ID	270900756 BNSF 2009 OSHA		·
est: PL	M Libby Gravimetric	Ma	atrix: Soils		FAT: 72 Hour		<u>Qty:</u> 1
rder ID	Lab Sample #	Cust. Samp	ole#L	ocation_		Due Date	
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			ANALYZED	):	KB	Date:	8/31/09
			Preliminary to Special F		R/Cm	Date:	9/1/09
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8/31/2009 9:29:41 AM

		Order ID: 27	0900756			
Attn:	Scott Carney EMR, Inc. 11 East Superior Street Suite 260 Duluth, MN 55802		Customer ID: Customer PO: Received:	EMRI78 08/28/09 2:08 PM		
Fax: Project:		hone: (218) 625-23 6/ <b>2009</b>	EMSL Order: EMSL Proj ID: Cust COC ID	270900756 BNSF 2009 OSHA		
Test: PL	.M Libby Gravimetric	Mat	rix: Soils	ГАТ: 72 Hour		Qty: 1
Order ID	Lab Sample #	Cust. Sample	# Location		Due Date	
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		F	Data Valildation: Reported to Client:  Micrographs:	KL	Date:	

8/31/2009 9:29:42 AM

	Scott Carney EMR, Inc. 11 East Superior Street Suite 260		Customer II			
Project:	Duluth, MN 55802	hone: (218) 625-23 5/ <b>2009</b>	Received:	08/28/09 2:08 PM er: 270900756 ID: BNSF 2009 OSHA		
Fest: PLN	I Libby Gravimetric	Mat	rix: Soils	TAT: 72 Hour		Qty: 1
Order iD	Lab Sample #	Cust. Sample	# Location		Due Date	
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		1 ⊢	Structure Review:		Date:	
		)  -	Data Valildation: Reported to Client:	KL KL	Date:	9/4/09
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8/31/2009 9:29:42 AM

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Attn:	Scott Carney EMR, Inc.			omer ID: EMRI7	8	
	11 East Superior Street		Recei	omer PO: ived: 08/28/0	09 2:08 PM	
	Suite 260 Duluth, MN 55802					
Fax:		Phone: (218) 625	-2332 EMSI	L Order: 270900	)756	
Project:	D2653 Samples collected 8/19 and 2	6/2009		•	2009 OSHA	
			Cust	COC ID		
st: PL	M Libby Gravimetric	<u>M</u>	atrix: Soils	<u>TAT:</u> 72	Hour	<u>Qty:</u> 1
der ID	Lab Sample #	Cust. Sam	ple# Loca	tion	Due Date	9
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#### SDG NARRATIVE

instructions: The following information should be included in all narratives. Please see the attached narrative template.

- 1 List the method or methods used.
- 2 For any modifications, reference the modification number and attach a copy of the signed document to the raw data package.
- 3 If sample condition is not "OK", explain why and any implications to the data.



### ANALYTICAL, INC.

http://www.emsl.com

Corporate Office & Lab 107 Haddon Avenue Westmont, NJ 08108 1-800-220-3675 1-856-858-4800

September 18, 2009

Scott Carney EMR, Inc. 11 East Superior Street Suite 260 Duluth, MN 55802 (218) 625-2337

RE:

SDG Narrative – PLM Analysis by SRC-Libby-01, Revision 2

EMSL Analytical, Inc. Laboratory Order ID: 270900756

#### Dear Scott:

Seven (7) samples were received in a sealed cooler via FedEx on 8/28/09 and signed for by the sample receiving clerk. The samples were assigned an internal EMSL laboratory order ID number of 270900756. Samples were assigned a unique, sequential laboratory ID number, and the job was entered into the Laboratory Information System (LIMS). The laboratory ID numbers and the login information are summarized on the EMSL internal Chain of Custody. Sample condition and signatures are recorded on the USEPA Chain of Custody D2653 as submitted by the CDM Soil Laboratory, Denver, CO.

The samples were analyzed in accordance with SRC-Libby-01 Revision 2, Version 8 for the Qualitative Estimation of Asbestos in Coarse Soil by Visual Examination using Stereomicroscopy and Polarized Light Microscopy, with no modifications.

Results were e-mailed to the Libby distribution group on 9/4/09. If you have any questions or require additional information, please do not hesitate to contact me at 856-858-4800, ext. 1253.

Sincerely,

EMSL Analytical, Inc

Charles E. LaCerra

Special Projects Manager

..... CHECKLIST

#### REFRACTIVE INDEX LIQUIDS

finstructions: Please see and follow attached table from Shu-Chun Su, Technical Expert for NVLAP Asbestos Programs. (Suggested Format for Recording Results of Rt Liquids Calibration using Cargille Glass Standard and Dispersion Staining Method - Version: February 1998)

### The following components are included in the table:

- 1 Date
- 2 Nominal or Labeled no 25 degree Celsius
- 3 Cargille Glass
- 3a Nominal or Labeled R.I.
- 3b Lot No.
- 4 Central Stop DS Observation
- 4a Predominant DS Color
- 4b Corresponding alphae
- 5 Liquid or Room Temperature (degree Celsius)
- 6 Actual or Calibrated no 25 degree Celsius
- 7 Difference between Calibrated no 25 degree Celsius and Labeled no 25 degree Celsius
- 8 Accept or Reject
- 9 Analyst

### Calibration Of Common RI Oils

Date:

8/24/09

RI	Oil	CARGILLE C	LASS	CENTRAL	STOP DS					
N₀	Lot#	Labeled Ri	Lot#	DS Color	. λ <sub>0</sub>	dN <sub>D</sub> /dt	T <sub>R</sub>	N <sub>X</sub>	N <sub>D</sub> -N <sub>X</sub>	Accept or Reject
1.550	13619HI	1.550	c.	<b>100</b>	620	4.91E-04	20.4	1.55†	0.001	ACCEPT
1.605	0701	1.600	В	LL Blue	660	4.41E-04	20.4	1.801	0.004	ACCEPT
1.625	0807	1.625	В		800	4.80E-04	20.4	1.823	0.002	ACCEPT
1.680		1.680	C.	Bue	<b>620</b>	4.75E-04	20.4	1,679	0.001	ACCEPT
1.700		1.700				4.80E-04	<b>柳脚"</b> 。		1.700	REJECT

From Su (1996) RI Oil Conversion Tables (except 1.625 from Su Spreadsheet) (Available in EMSL's RI Calibration SOP) Temperture Corrected

No=The Refracted Index the Manufacturer Calibrated for the Oil At 250 C

 $\lambda_0$  = Associated wavelength of observerd Dispersion Staining Color (from McCrone color chart)

8/24/09

dn<sub>D</sub>/dt≖The Change in Refractive Index per Degree Celsius from Ri Oil bottle

T<sub>R</sub>=Room Temperature at the Time of the Calibration in °C

N<sub>x</sub>=The Refractive Index Measured During Calibration

Analyst:

### SAMPLE RESULTS

### See Attached Sample Results

Instructions: These sample result forms are from the PLM (VE & PC) Data Sheet and EDD v4.xis file. They are labeled in this file as the VE or PC hard copy data form.

#### Electronic Data Log Sheet v8 for SOP SRC-LIBBY-01 (Stereomicroscopic and Gravimetric Analysis of Coarse Soil)

File Name: GRAV\_EMSL27\_270900756\_08-31-09.xls
Spreadsheet: Version 8

Lab Name: SOP Version:

Lab Job No:

EMSL27
SRC-LIBBY-01 (Revision 2)
270900758

Electronic Data Entry by: URamowski (2007) (

QA by: K Lusher QA date: 09/04/2009

Click Here to Save File Key:

Data entry fields
Missing required data entry or invalid entry
Possible data entry omission or error
Calculated cells—Do not enter data here
Data entry not required

		Т		Status	QA Type	Total :	Sample Weig	ht (g)	Analy	sis Details						Mass of Asbe	stos Particle	e (mg)						Asi	bestos Fra	ctions	
	Index		Lab Job-	1 = Analyzed	(Not QA)	Tare	Mass of		1			Libby Amp	ohibole (LA)			Other A	mphibole (O	A)			Chrys	atile (C)			Values are displayed to two decimal places. Full values are uploaded into database.		
EPA Index ID	Suffix		Sample No.	2 = Missing		Weight (g)	Sample +	Mass of Sample	Analyst	Analysis	LA Qual		Mass of LA	Mann	OA Qual	OA Type	Tare	Mass of QA	Mass	CQuat	Tare	Mass of C		upios			Comments (enter full text, not codes)
	ļ	1		3 = Contam		Empty Container	Container	(g)	Initials	Date	(ND, Tr)	Container	+ Container		(ND, Tr)	(AMOS, ANTH,	Weight - Container	+ Container	(mg) -	(ND. Tr)	Weight - Container	1 . CONTRACTOR	(mg) C		% OA	% C	(and in any life source)
				4 = Cancelled		CONTRACTOR	(9)				,	(mg)	(mg)	•	(,	CROC, UNK)	(mg)	(mg)	OA		(mg)	(mg)	( <b>a</b> ) -	70.50	200	, ~ ~	
RR-00221	C	A 1000	270900755-0001	的现在, <b>d</b> ubber	Not QA	2.2730	81.8287	79.58	⊪KB⊗	8/31/2009	⇒ ND ∗				/ ND					ND:							<1% cellulose
RR-00321		\$ (\$b)	270900756-0002	图象 自新教	Not QA	¥2.3041	149.1768	146.87	KB	8/31/2009	• ND				.>ND ⊕					ND							<1% cellulose
RR-00322	, C.,	3	270900756-0003	SE S	Not QA	2.2889	131,4847	129.18	⊮ KB	8/31/2009	X ND				ND :					ND							THE PARTY OF THE P
RR-00323	:( <b>C</b> ≌	a 1883	270900758-0004	<b>建筑和发生</b>	Not QA	2.2610	156,1138	153.85	KB	8/31/2009	ND:				ND *					ND.							<1% cellulose
RR-00324	C	1.1	270900756-0005	<b>测量量产</b>	Not QA	2.2883	22.4988	20.21	⊮ KB ⊴	9/1/2009	× ND ∌				ND -					₹ND.							<1% cellulose
RR-00325	C	5 7 4	270900756-0006	35/316	Not QA	2.2782	48.4902	46.21	KB	9/1/2009	ND				ND.					(ND							<1% cellulose
RR-00326	C		270900758-0007	<b>建筑建筑</b>	Not QA	2.2786	116.9751	114.70	KB	9/1/2009	ND				"ND"					- ND							<1% cellulose

#### **BENCH SHEETS**

Instructions: Please provide handwritten or LIMS system generated raw data sheets for sample results.

### Data Log Sheet v8 for SOP SRC-LIBBY-01

Stereomicroscopic and Gravimetric Analysis of Coarse Soil

Lab Name:	EMSL27
SOP Version:	SRC-Libby-01 (Rev2)
lah lah Na	270900756

Calculated automatically in the "Electronic Data Entry" form. Do not

_			Status	QA Type	Total Sa	ample Weight (g)	_	Analys	is Details							Mass of Asbestos						—		_	
EPA Index ID	Index Suffix	Lab Job-Sample No.	1 = Analyzed 2 = Missing	(Not QA)	Toro Walaba (a)	More of County a	Mass o				Libby Amphibole (l				Other Am	phibale (OA) Asbes		$\Box$		Chrysotile (C)	Asbestos	$\Box$			omments sea Notes
			3 = Contain 4 = Cancelled			Mass of Sample + Container (g)					Tare Weight - Container (mg)	Mass of LA + Container (mg)	Massa (mg) LA	OA Qual* (ND, Tr)	OA Type™ (AMOS, ANTH, CROC, UNK)	Tare Weight - Container (mg)	Mass of OA + Container (mg)	(mg) CA	C Qual* (ND, Tr)	Tare Weight - Container (mg)	Mass of C + Mass (mg) C	%LA	% OA 1	۱°   ۲۰	below)
RR-00221	C	270900756- -0001	1	NOT	2.273O	81.8287		UB	8/31/09	ND				ND					ND						
RR-00321	C	-0002	1	No+	2.3041	149.1768		KB	8/31/09	ND				VD	_				20						
RR-00322	С	-0003	1	NOT	2,2889	131.4647		KB	8/31/09	DU				ДZ					ND	7					
RR-00323	C	-0004	1	Not	2.2610	156.1138		KB	8/31/09	DU				ďИ					ND						
RR-00324	C	-0005	1	Not	2.2883	22,4988		100	9/1/09	ac				20					MD						
RR-00325		-0000	(	Not QA	2,2782 2,2786	48.4902		NB	9/1/09	ND				ПП					ZZ			M			
RR-00326	C	-0007	1	Not QA	2.2786	116.9751		KB	9/1/09	MD				ムク					ЙŅ						
									,																
			Es												•							M			
			47	2																					
_			11/2		6																				
		_																							
															- 1										

\*Qualifier codes:

ND = No asbestos observed. Tr ≃ Trace levels observed but not quantified.

\*\*OA Type codes:

AMOS = Amosite
ANTH = Anthophylite
CROC = Crocidolite
UNK = Unknown

Comment Codes (user-defined):

# Polarized Light Microscopy (PLM) Performed on Soil Samples by NIOSH Method 9002, Issue 2

Client:	Corp.	Logged:		TAT:	
Address:		Date/Time Due:			
	William William		Special Instructions		Order Number
Fax:	9/1/0				
Project:					270007
					270900756

						OMPON	IENT TY	PES				MICRO	OSCOPIC			
Macros	copic	Treatme	nt	Asbesto	s	Fib	rous		Non-Fib	rous	Optical Properties					
COLOR (C 1 Brown 4 White 2 Gray 5 Red 3 Tan 6 Variou TEXTURE ( 1 Fibrous 2 Non-Fi	7 Black 8 Silver as 9 Blue 10 Yellow	1 Teased 2 Crushed 3 Dissolv 4 Ashed 5 Heated 6 Melted	l 2 . re 3 . 4 . 5 .	Chrysotile Amosite Anthophyllit Tremolite Actinolite Crocidolite	e	7 Cellu 8 Glass 9 Min. 1 10 Synth 11 Other 12 Wolla 13 Hair	<b>∛</b> ool etic	14 Quar 15 Mica 16 Gyps 17 Cal. 18 Matr 19 Perl 20 Othe	um Carbona ix ite	ite	1. Wavy 2. Straight 3. Uniform Diame 4. Ribbon-Like 5. Tapered Ends Pleochroism (P) 1. Yes 2. No	orphology (M) 6. Scaled 7. Pitted ter 8. Medull 9. Exotic 3 10. Other Birefringenece 1 Low: 0.010 2 Med 0.010-0.03 3 High >0.050 4 None 0.00 or isc	(B) Fiber Color (F) 1 White 2 Brown 3 Beine	Elongation (5)  C) Extinction (E)  I. Parallel  2. Symmetrical  3. Oblique  4. Undulose		
HOMOGENEIT 1 Homogeneous 3	Y (H) OTHER	Ast	ereo estos it. %	Asbestos Type	% of Asbesto	F	Other brous %	Non-l	ibrous %	Non-Asb Char. Ex. E4			3 Green 6 Coloriess Properties			
Cumple	(C) 3	CEI.		OU	0	17	21	20	100	E4		⊥ R.I.	·	R.I.		
RR-00221	(T) 2 (H) 2	C	>	140		1		20	100	<u> </u>	P	м	(FC)	S		
	(C) 3			ND	0	7	1		100	· 1		⊥ R.I.	· · · · · · · · · · · · · · · · · · ·	R.I.		
RR-00321	(T) 2 1		)	NU		4	21	20	100	EY		м		S		
""	(H) 2				-						P	В	(FC)	Е		
	(C) 3	:		ND	D	-		20	100	E4		⊥ R.I.		R.I.		
RR-00322	(T) 2		)									М	•	S		
	(H) 2										P	В	(FC)	E		
	(C) 3			ろり	0	7	21	20	(00	EY		⊥ R.I.		R.I.		
RR-00323	(T) 2		)							•		М	-	S		
	(H) 2										P	В	(FC)	E		
	(C) 3			DU	0	7	4	20	100	E4		⊥ R.I.		R.I.		
RR-00324	(T) Z	[	)									М		S		
	(H) 2										P	В	(FC)	В		
	(C) 3			ND	0	7	41	20	100	E4		⊥ R.I.		R.J.		
RR-00325	(T) Z	C	)									М		s		
	(H) 2										P		(FC)	E		
	(C) 3			20	0	7	41	20	100	E4	-	⊥ R.I.		R.I.		
RR-00326	(T) 2 [	<i>  1</i>	)							1		М		S		
	(H) 2_										P	В	(FC)	Е		
	(C)							20				⊥ R.I.		R.I.		
	(T)											М		S		
	(H)	10									P	В	(FC)	В		
	(C)	SP	,					20				⊥ R.i.		R.I.		
	(T)	1//	Me	2								М		S		
	(H)	9/109									P	В	(FC)	В		
	(C)							20				⊥ R.I.		R.I.		
	(T)											М		S		
	(H)				-						P	В	(FC)	Е		

Analyst: Vounes	Date:	8/31	9/1/09 Computer:	Date:	
Room Temp (C): 19.6		1	FMSI Analytical	Inc. 107 West 4th Street Libby MT 59923	PLM7.9.0